REMARKS/ARGUMENTS

Applicant has studied the Office Action dated September 8, 2005. It is submitted that the application, as originally filed, is in condition for allowance. Claims 1, 7, and 15 are amended. Claims 1-25 remain pending. Reconsideration and allowance of the pending claims in view of the following remarks is respectfully requested.

In the Office Action, the Examiner:

(2-3) rejected claims 1-6 and 12-14 under 35 U.S.C. § 102(b) as being anticipated by Ogawa et al. (U.S. Patent No. 5,539,419);

(4) rejected claims 15-25 under 35 U.S.C. § 102(b) as being anticipated by Yarsunar (U.S. Patent No. 5,469,181); and

(5) indicated that claims 7-11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(5) Allowable Subject Matter

The Applicant wishes to thank Examiner Le for indicating the allowable subject matter of claims 7-11. Although the Applicant respectfully disagree with the Examiner's rejection of independent claim 1, the Applicant has elected to amend claim 7 solely for the purpose of expediting the patent application process in a manner consistent with PTO's Patent Business Goals (PBG), 65 Fed. Reg. 54603 (September 8, 2000). Specifically claim 7 has been rewritten in independent form including all the limitations of the base claim. The Applicants submit that claim 7 is now in a condition of allowance, which allowance is respectfully requested. Further, claims 8-11 depend from newly amended independent claim 7. Since dependent claims contain all the limitations of the independent claims, claims 8-11 should be allowable as well, which allowance is respectfully requested.

(2-3) Rejection under 35 U.S.C. §102(b)

As noted above, the Examiner rejected claims 1-6 and 12-14 under 35 U.S.C. § 102(b) as being anticipated by Ogawa et al. (U.S. Patent No. 5,539,419). The claims have not

been amended to overcome the cited prior art.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Amended independent claim 1 recites, *inter alia*:

> **a plurality of omnidirectional radiating elements** connected to the body section and surrounding **a directional radiating element** assembly, the group of omnidirectional radiating elements having a first position within the body section for an omnidirectional mode of the antenna assembly and a second position within the body section for a directional mode of the antenna assembly. (emphasis added)

The present invention discloses an antenna assembly with two distinct radiating mechanisms: a *plurality* of *omnidirection* radiating elements and a *directional* radiating element assembly.

The specification of the present invention defines "omindirectional" as "a radiation pattern that is substantially uniform throughout all angles." Para. 00021 The omnidirection radiation pattern can be seen in FIG. 1a of the instant specification.

A "directional" radiation pattern, on the other hand, reaches maximum gain at approximately 0 degrees and "the gain value decreases as the angle is varied from 90 degrees until finally a null is reached somewhere between 0 degrees and 90 degrees. Thus, maximum gain is realized in only a single direction when in the directional mode." See FIG. 5 and para. 00031 of the instant application. To achieve directionality, "each dipole 401, 403 & 402, 404 is alternately energized with opposing charges when the antenna is in the directional mode and results in a circularly polarized signal being transmitted." Para. 00032.

Ogawa et al. discloses several embodiments of an omnidirectional antenna with one or more parasitic elements electrically insolated from the radiating antenna element. See FIGs. 1, 8, 14, and 19 of Ogawa. In each embodiment disclosed in Ogawa et al., a single omnidirectional element (106) is present. Thus Ogawa et al. does not disclose "a **plurality** of omnidirectional radiating elements connected to the body section" as recited in claim 1 of the instant application.

Additionally, Ogawa et al. teaches the use of one or more parasitic elements to effect the radiation pattern of the omnidirectional element (106). The parasitic elements are not driven elements. Ogawa et al., col. 7, lines 46-49. That is, no signal is being input or received from the parasitic elements.

Radiation patterns of the Ogawa et al. antenna are shown in FIGs. 2B-2D. The radiation patterns shown in the figures of Ogawa et al. vary slightly from each other, but retain the same general radiation pattern. In fact, **none of the radiation patterns shown in Ogawa et al. are similar to a directional pattern** as shown in FIG. 5, defined in paragraph 00031 of the instant application, and known to those of skill in the antenna art.

Thus, Ogawa et al does not disclose "*a directional radiating element assembly*," as recited in claim 1 of the instant application. Because Ogawa et al. does not have a directional radiating element or element assembly, Ogawa et al. does not show or teach "*a second position within the body section for a directional mode of the antenna assembly*," as recited in claim 1 of the instant application.

The Examiner cites 35 U.S.C. § 102(b) and a proper rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claims as being anticipated by Ogawa et al.[1] Because the elements in independent claim 1 of the instant application are not taught or disclosed by Ogawa et al., the apparatus of Ogawa et al. does not anticipate the present invention. Dependent claims 2-14 are believed to be patentable as well because they all are ultimately dependent on claim 1. Accordingly, the present invention distinguishes over Ogawa et al. for at least this reason. The Applicants respectfully submit that the Examiner's rejection under 35 U.S.C. § 102(b) has been overcome.

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[1] See MPEP §2131 (Emphasis Added) "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

(4) Rejection under 35 U.S.C. §102(b)

As noted above, the Examiner rejected claims 15-25 under 35 U.S.C. § 102(b) as being anticipated by Yarsunar (U.S. Patent No. 5,469,181). The claims have not been amended to overcome the cited prior art.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Amended independent claim 15 recites, *inter alia*:

> the body section having a first position for deploying a plurality of reflectors and a second position for storing a plurality of reflectors, wherein the reflectors **only function as reflectors when in the deployed position**. (emphasis added).

In its *omnidirectional* configuration mode (FIG. 2), the present invention includes an antenna body 202, which holds a group of four or more omnidirectional elements 203, which surround a directional element 204. In this mode, an electrical path is created from the radio/antenna interface 201, through the body 202, to the omnidirectional radiating elements 203. Para. 00025 of the instant specification. In this configuration, the elements 203 are acting as radiators only. The directional elements 205 are not deployed or energized at all while the antenna is in the omnidirectional mode. Para. 00032 of the instant specification. Therefore, **in the *omnidirectional* mode, no portion of the present invention functions as a reflector.**

In its *directional* configuration, the present invention's omnidirectional elements 203 are be repositioned—or "deployed"—as shown in FIG. 4, to lie in a plane perpendicular to directional element 204. The omnidirectional elements are no longer driven and cease functioning as omnidirectional elements. In this mode, the elements 203 become reflectors to reflect energy, thereby creating a directional radiation pattern and increasing the SATCOM antenna gain. Para. 00029 of the instant specification.

The Yarsunas reference discloses a variable horizontal beamwidth antenna having hingeable side reflectors. The two reflectors of Yarsunas (16 and 18) are hinged to

provide, as the title describes, variable horizontal beamwidth. Col. 3, lines 23-27.

Importantly, in every embodiment or position described by Yarsunas, the reflectors are utilized as reflectors and nothing else. Yarsunas does not disclose two reflector modes—deployed and stored—and, necessarily, Yarsunas does not disclose a difference between storing the reflectors and deploying the reflectors. In short, the Yarsunas reflectors are always deployed and never stored.

Yarsunas does have a body with positions. However, unlike the present invention, the reflectors in Yarsunas function identical in every position. Therefore, Yarsunas does not disclose a "*body section having a first position for deploying a plurality of reflectors* ***and a second position for storing a plurality of reflectors****, wherein* ***the reflectors only function as reflectors when in the deployed position***," as recited in claim 15 of the instant application.

The Examiner cites 35 U.S.C. § 102(b) and a proper rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claims as being anticipated by Yarsunas.[2] Because the elements in independent claim 15 of the instant application are not taught or disclosed by Yarsunas, the apparatus of Yarsunas does not anticipate the present invention. Dependent claims 16-25 are believed to be patentable as well because they all are ultimately dependent on claim 15. Accordingly, the present invention distinguishes over Yarsunas for at least this reason. The Applicants respectfully submit that the Examiner's rejection under 35 U.S.C. § 102(b) has been overcome.

CONCLUSION

The remaining cited references have been reviewed and are not believed to affect the

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[2] See MPEP §2131 (Emphasis Added) "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

patentability of the claims as amended.

In this Response, Applicant has amended certain claims. In light of the Office Action, Applicant believes these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

Applicant acknowledges the continuing duty of candor and good faith to disclosure of information known to be material to the examination of this application. In accordance with 37 CFR §1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment are limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is knowingly surrendered and everything else is unforeseeable at the time of this amendment by the Applicants and their attorneys.

Applicant respectfully submits that all of the grounds for rejection stated in the Examiner's Office Action have been overcome, and that all claims in the application are allowable. No new matter has been added. It is believed that the application is now in condition for allowance, which allowance is respectfully requested.

PLEASE CALL the undersigned if that would expedite the prosecution of this application.

Respectfully submitted,

Date: September 16, 2005

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